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ABSTRACT

Emphasis on broad-based institutional planning is largely a phenomenon of the seventies. One reason is that the value placed on it varied inversely with the availability of resources. Yet the state of the art of planning for change is not far advanced. There is evidence that those institutions doing this kind of planning tend to be private, smaller, and newer. Current trends place more emphasis on the process as a means to secure commitment to specific changes and a way to foster a political environment that encourages and supports continuing adaptation. Failure to develop institutional procedures invites the imposition of state-conceived models and requirements. There is substantial agreement about the essential characteristics of the planning process, although the agreement does not extend to implementation strategies, and a variety of strategies have emerged. All assume the availability of basic information, and numerous quantitative analytic tools have been developed. Some are computer models that are comprehensive of the institution's broad scope, and some address only a part of the institution's operation. The planning models vary in sophistication and in degree of use by colleges and universities. (Author/MSE)

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THE NEED FOR INSTITUTIONAL PLANNING

Richard C. Richardson, Jr., Don E. Gardner, and Ann Pierce

Emphasis on broad-based institutional planning is largely a phenomenon of the seventies (Ohio Board of Regents 1974). One reason is that the value placed on planning varies inversely with the availability of resources (Fuller 1976). The era of declining resources into which many colleges have now moved furnishes both the incentive and the necessity for developing decision processes that will insure preservation of flexibility in the use of funds, assignment of faculty and utilization of space. In these circumstances, both strategic institutional planning and supportive public policy are required if institutions are to do more than survive. (Carnegie Foundation for the Advancement of Teaching 1975). This review is concerned with strategic institutional planning, as distinct from the public policy efforts of statewide planning and coordinating agencies. While the activities of both are important, the latter have received considerably more attention in the literature.

Involvement of faculty with administrators to arrive at a consensus on the need for planning should be a prerequisite to any process aimed at achieving a specific change. This has been confirmed by experiences at a wide range of institutions (Ladd 1970, p. 200). Yet the state of the art of planning for change is not far advanced.

A study of four states (California, Florida, Illinois, New York), chosen because of purported long experience with planning and coordination, revealed that less than half of the eighty institutions involved were engaged in substantive planning. Those that were, tended to be private, smaller, and newer. Substantive planning was characterized by broadness of scope, integration of decisions concerning program, facilities and budget, definition of priorities, continuous rather than sporadic activity, use of a research data base, broad participation of faculty and administrators, and emphasis on process rather than the plan itself. More common, expedient planning, by contrast, occurred primarily in response to external pressures from statewide agencies and concerned itself with easily quantified measures in relatively narrow areas (e.g., space utilization, new programs, cost of instruction, student/teacher ratios) useful in statewide coordination (Palola and Padgett 1971).

The evidence pointing to the absence of broad-based institutional procedures capable of sustaining a substantive planning process for all but a handful of colleges and universities is impressive. During the sixties, expanding enrollments and steadily increased support to higher education made expedient planning a reasonably satisfactory response to environmental pressures. However, in a recent study by Lee and Bowen (1975), evidence is presented of a growth in the quality and amount of planning over the last four or five years. Current trends place more emphasis on the planning process as both a means to secure commitment to specific changes and a way to foster a political environment that encourages and supports continuing adaptation (Hollander 1975; Fuller 1976; Vaccaro 1976).

In the present context, the use of complex planning models may be difficult to justify without outside funding. The emphasis must be on simple decision-making procedures that are sufficiently democratic and participative to respond naturally to environmental change (Lockwood 1972). To be effective, planning procedures must be characterized by simplicity, flexibility, the ability to keep pertinent information in focus, and provision for meaningful participation by all concerned. The plan is only one benefit of planning. The real purpose is to achieve results in the pursuit of objectives, and a plan may be detrimental if it cannot be changed easily when changing circumstances dictate the need (Green and Winstead 1975).

Failure to develop strong institutional planning procedures invites the imposition of state-conceived models and requirements. Those who complain about increasing state control should review the adequacy of their internal planning efforts. State-level planning and coordination is most beneficial where there is strong institutional planning backed by accurate data and supported by realism and imaginative analysis (Glenny 1975). While there is no general agreement about the most effective strategy for developing an effective, broad-based institutional planning process, the outline of such a strategy has been defined along with alternatives for implementation.

A FRAMEWORK FOR PLANNING

There is substantial agreement about the essential characteristics of the planning process, although the agreement does not extend to implementation strategies. Effective institutional planning occurs within the broader context of a well-defined mission derived either from statewide planning efforts or some other assessment of external needs and constraints. Quantifiable goals are developed within the parameters of mission statement and mandated priorities. Responsibilities for goal achievement are determined, and the identified units develop specific activities to accomplish goals. The activities become the basis for resource allocation. Periodically, the achievement of goals is evaluated and the results used to assist in formulating new goals (Parekh 1975).

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There is less agreement about *strategies for planning* (Glenny 1975, p. 17). The need to find appropriate and credible procedures for broad staff involvement is recognized, as is the requirement for commitment and active involvement of the president. Three basic positions emerge with respect to *planning structure*. One, represented by the USHER Redesign Model (McFadden 1975), emphasizes planning and its potential for contributing to organizational development. A very elaborate planning structure is set up with a myriad of specially appointed teams. The problem with this approach is its complexity and the demands that would be placed on the time of participants.

A second approach is nonprescriptive statewide coordination, where alternatives are defined and decisions are left to the individual institutions (Ohio Board of Regents 1973). This approach recognizes the diversity of institutions and would be beneficial to statewide coordinating bodies interested in stimulating substantive planning. However, it reflects a lack of recognition of the problems encountered by institutions that have tried to implement planning by relying exclusively on existing committees (Palola and Padgett 1971, p. 30).

The most promising approach relies on the existing structure as much as possible, both to avoid excessive demands on the time of participants and to integrate planning in the regular operation of the organization. At the same time, in recognition of the need for focus and coordination, a general planning committee is appointed consisting of the president, his staff, appropriate administrators, and representatives of the faculty and study body. Depending on the size of the institution, it may be useful to add to the planning committee an analytical studies team elected or appointed from faculty members who have interest and expertise in the planning and budgeting cycle (NACUBO 1975; Parekh 1975).

Some observers have argued that planning for institutional renewal will not meet with success because of constraints imposed by the distinctive nature of the higher education enterprise. Planning frameworks or models are designed to channel future resources and activities into paths that will be productive in the attainment of specific goals and objectives. Unfortunately, institutional goals and objectives in higher education are characterized by researchers as being ill-defined, vague, ambiguous or nonexistent (Palola and Padgett, p. 13; Richman and Farmer, p. 198). Simply stated, the planning skeptics believe that decision-making within the university is so broadly diffused that the process cannot be well understood and will therefore be difficult if not impossible to model (Breneman 1975, p. 79).

QUANTITATIVE ANALYTIC TOOLS

All of the planning frameworks mentioned earlier assume the availability of basic information pertinent to the concerns of faculty and administrators involved in the planning process. To assist in the collection, presentation, analysis, and interpretation of basic planning information, numerous quantitative analytic tools have been developed (McNamara 1971; Schroeder 1973).

The basic contention of those who advocate the use of quantitative analytic tools or models to support planning is that the important variables affecting the future of the institution can be expressed numerically, and related mathematically in ways that approximate reality. Critics respond that the most important factors determining future directions are so imprecise or so often politically derived that a quantitative model will never be accurate enough to deserve any degree of confidence. Worse, a quantitative model may produce results that imply a degree of knowledge and understanding that does not exist (Dresch 1975). In spite of the current limitations of quantitative models, it is difficult to question the importance of access to basic information as a requirement of effective planning. The key to effective use of analytical models in broad-based institutional planning is to view them as tools rather than an end in themselves.

Quantitative planning models must tolerate the imprecision characterizing real-life situations and produce results that are clearly identified as approximations. Analytical models are most useful when their outputs are taken as estimates or rough approximations.

Since the early work of Weathersby, Judy and Levine and others, there have been several major attempts at developing comprehensive quantitative planning and management systems for colleges and universities. Three of the most commonly mentioned products of this type are CAMPUS, the NCHEMS Costing and Data Management Systems (CADMS, which includes RRPM), and the Higher Education Planning System (HEPS). The massive data requirements needed to drive these larger systems are well known and are often cited as one of the major reasons for lack of success in implementation. Hopkins has contended that they have important, little-understood conceptual shortcomings as well, and that reasonable cost predictions can probably be obtained more directly and inexpensively from the personal judgments of experienced educators (Hopkins 1971, p. 477).

A survey of 394 institutions having access to one of four computer models yielded responses from 90 institutions that had implemented or attempted to implement CAMPUS or RRPM. Eighty-five percent of those responding indicated that the model's outputs were either "never" or only "sometimes" used in decision-making, with 15 percent indicating that they were used "often" (Plourde p. 26). Portions of HEPS have been implemented at CUNY/Brooklyn, The University of Pittsburgh and Arizona State University. The system contains a large number of relatively rigid report-writing programs that depend on large data bases of information conforming to definitions and structures specified prior to implementation. Compared to HEPS, the NCHEMS/CADMS software is relatively flexible in required data inputs (Gardner 1976).

More typical of quantitative techniques are the computer models that address only one area of university operation. An area that has perhaps received more attention by model builders than any other has been that of physical space utilization and planning. Of the 21 planning models in various stages of development outlined by Casasco, eight were directly concerned with some aspect of space planning, while another five were indirectly concerned. One explanation for the extensive activity in this area is that it is an outgrowth of the pressing need for new facilities to accommodate the rapid growth of the fifties and sixties. Another reason is the nature of the variables involved (number of student stations, number of faculty offices, number of square feet, etc.); there is a relative degree of ease in dealing with items that are easily quantified.

Another type of quantitative planning model that has been explored rather extensively is the faculty flow model. Although the extent to which policy decisions have been affected in a planning context is unknown, several sophisticated flow models exist that provide potential means for predicting the effects of various policy

changes on the future size and composition of a university faculty. Such models have particular utility in situations where stabilized or declining enrollments have raised the issues of tenure quotas and/or retrenchment.

Typically, a faculty flow model is based on assumptions regarding retention/attrition rates as affected by natural factors (such as deaths and voluntary resignations) and policy decisions in the areas of retirement and promotion. Hoenack and Weiler (1977) have postulated a faculty flow model that also considers and predicts the effects of policy decisions in the areas of tuition rates and student recruitment (especially in nontraditional instruction).

The potential utility of a faculty flow model is illustrated in Bloomfield's assessment of a comprehensive faculty flow model developed at Oregon State University (Bloomfield 1977). In his estimation, the most significant benefits derived from implementation of the model were the insights it gave into the problem of an assumed "bulge" in the tenured population that would result from the hiring that took place to accommodate the rapid growth of the mid-sixties. Results from the model seemed to indicate that the tenured/nontenured ratio was much more stable than anticipated, and only "drastic" changes in hiring and promotion policies would affect its future stability (Bloomfield, p. 15).

The need for relatively accurate predictions of future enrollments is a familiar topic because of its close ties to the budgeting processes in both the public and private sectors. A variety of mathematical models exist for assisting university planners in this area, presenting the challenge of selecting techniques which might have the most validity for use at a particular institution. Suslow has recently provided a brief discussion of experiences with several models at the University of California, Berkeley, including Grade Progression, Markov Projections, and Cohort Survival. Suslow concluded that the Cohort Survival Model held the most promise for predictive ability at Berkeley, but admitted that more testing would be required to evaluate reliability over time (Suslow, p. 29).

One of the more common statistical approaches to the problem of predicting enrollments has been the use of linear regression models that attempt to identify variables with consistent predictive ability. Such variables as births eighteen years earlier, ratios of military enlistments, and numbers of high school graduates have been investigated as potential predictors of university attendance (Brown and Savage 1975). Unfortunately, other factors that are much more difficult to identify and quantify, such as the state of the local economy, perceived potential individual financial benefit, and perceived peer status also have a direct effect on enrollments. The historical consistency and nature of these "true" predictive variables are much more difficult to establish, and the available alternatives may have only a coincidental validity that holds true in periods of relatively stable growth. Since the era of relatively stable growth has probably come to an end for most institutions, work in the area of refining projection models will undoubtedly continue.

In the area of financial planning, there have been several attempts to develop mathematical models to assist decision-makers, such as PLANTRAN (developed by the Midwest Research Institute), and the Long-Range Financial Forecast (LRFF) developed at Stanford University (Hopkins and Massy 1977). The latter may be of particular interest to administrators in the private sector because, in conjunction with other tools and procedures, it has demonstrated practical utility in helping administrators assess future budget uncertainties. Formulated in terms of aggregate budget variables, the Stanford planning tools do not require construction of a massive data base of supporting information to be useful. Based on assumptions regarding income from tuition, investments, etc., the Stanford models provide top administrators with the opportunity to explore the possible effects of various kinds of policy decisions (Hopkins and Massy 1977).

Another financial planning model effort has been the development of the Resource Allocation and Management Program (RAMP) by the Illinois State Board of Higher Education. While RAMP was established primarily to assist in the formulation of the budget request at the system level, it has nonetheless had some effect on the internal budgeting and planning processes of the individual institutions. A university "Technical Plan" (a required part of the RAMP process) has been developed and successfully used in budgeting and planning procedures at Illinois State University (Harden and Tcheng 1975).

While the emphasis here has been on computer-based systems and technology, relatively simple, manual systems may also be effective in providing useful information for systematic planning. At the University of Utah a "Resource Allocation and Planning Guide" has been developed. Prepared from a variety of budget and financial reports, enrollment reports and salary summaries, the "Planning Guide" contained data that had been "evaluated, analyzed, and interpreted in reference to timely policy issues and problems facing the university administration." Careful documentation, systematic procedures, and consistent definitions in the preparation of highly synthesized information of this type can insure that administrators have at least a minimum base of essential information for making certain kinds of planning decisions (Gubasta and Kaufman 1977).

IMPLICATIONS

Few would argue that planning and decision-making processes in general ought not to be as rational as possible. In reality, planning and decision-making are generally much more intuitively or politically based than top-ranking administrators care to publicly admit. Weathersby concluded:

> . . . more than a decade of study of the actual decisionmaking process of a public sector in general, and of colleges and universities in particular, shows that rationality would be, at best, a very loose characterization of the decision-making process of these entities. (Weathersby, 1976, p. 98)

There are a number of senior administrators who argue this is the way it ought to be. Judging from practice, most institutional policies as well as public policies derive from political realities more than data analysis. Given this apparent fact of life, the issue of whether resource allocation to sophisticated planning systems can be justified at the institutional level is all too real.

Institutions must furnish the data required by statewide coordinating and governing bodies. Meaningful participation in institutional planning requires a data base. Primary emphasis, however, has to be placed on the process by which plans are developed rather than on the end result. The USHER framework and other planning systems based on Management by Objectives can be detrimental to the institution if implementation is attempted without adequate attention to the conduciveness of the political environment to change (Hamilton and Hinko 1976; Segner and Britton 1976). Stated another way, if the procedure through which a planning system is implemented violates the principles of participation on which the system is based, the consequence can only be rejection and informal resistance among those affected.

The new pressures toward improved college and university planning can constitute a powerful force for institutional renewal if properly utilized. Institutions today are confronted with a clear

mandate for change. The issue is no less than survival for some and the retention of vitality for others. Under such circumstances, faculty knowledge can be merged with effective management principles to produce the type of creative change so essential to the next decade (Clark and Guba 1966). This process can happen only if the more complex quantitative techniques and technologically sophisticated models remain our servants rather than our masters.

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